

# MECHANICAL INNOVATION USING TRIZ [ME59700-163]

Project-based 3-credit course (Fall 2025)\*

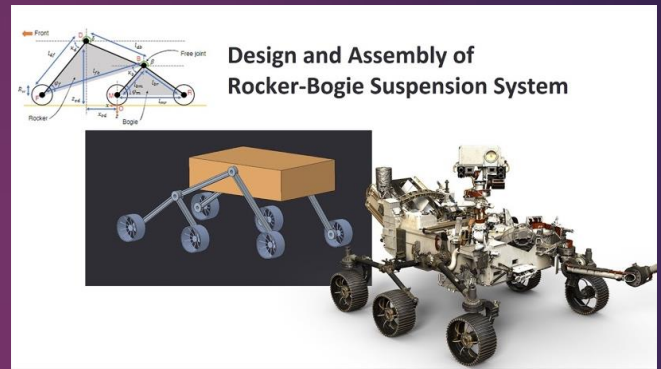
Professor Shirley J. Dyke, *Coates Professor of Innovation in Mechanical Engineering*

Innovation is the heartbeat of engineering. But what if we told you that the future of innovation doesn't have to rely on trial and error?

Welcome to *Innovation Through the TRIZ Method* — a course designed for the next generation of engineers who want to solve problems smarter, faster, and more creatively.

TRIZ is a powerful, structured methodology developed from the analysis of thousands of real-world inventions. It helps you break through mental blocks, resolve contradictions, and design solutions that are both elegant and effective.

Whether you're in mechanical, electrical, civil, or software engineering — TRIZ gives you a universal toolkit to innovate across disciplines.



The latter part of the course will be project-based. Students will be encouraged to choose a topic that aligns their interests.

Students completing this class will successfully:

- Apply TRIZ problem-solving tools to overcome engineering and design contradictions.
- Learn 40 TRIZ principles to solve design problems systematically.
- Create innovative, patentable mechanical design solutions.
- Use TRIZ in CAD and product development workflows.
- Build a personal toolkit for engineering innovation and creativity.